

PATENT COOPERATION TREATY

PCT

INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

(Chapter II of the Patent Cooperation Treaty)

(PCT Article 36 and Rule 70)

Applicant's or agent's file reference 214275	FOR FURTHER ACTION	
	See Form PCT/PEA/416	
International application No. PCT/NL2005/000033	International filing date (day/month/year) 18.01.2005	Priority date (day/month/year) 19.01.2004
International Patent Classification (IPC) or national classification and IPC INV. B65D81/34 B29C45/14		
Applicant SHIELTRONICS B.V.		
<p>1. This report is the International preliminary examination report, established by this International Preliminary Examining Authority under Article 35 and transmitted to the applicant according to Article 36.</p> <p>2. This REPORT consists of a total of 5 sheets, including this cover sheet.</p> <p>3. This report is also accompanied by ANNEXES, comprising:</p> <p>a. <input checked="" type="checkbox"/> (sent to the applicant and to the International Bureau) a total of sheets, as follows:</p> <p><input checked="" type="checkbox"/> sheets of the description, claims and/or drawings which have been amended and are the basis of this report and/or sheets containing rectifications authorized by this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions).</p> <p><input type="checkbox"/> sheets which supersede earlier sheets, but which this Authority considers contain an amendment that goes beyond the disclosure in the international application as filed, as indicated in item 4 of Box No. I and the Supplemental Box.</p> <p>b. <input type="checkbox"/> (sent to the International Bureau only) a total of (indicate type and number of electronic carrier(s)), containing a sequence listing and/or tables related thereto, in electronic form only, as indicated in the Supplemental Box Relating to Sequence Listing (see Section 802 of the Administrative Instructions).</p> <p>4. This report contains indications relating to the following items:</p> <p><input checked="" type="checkbox"/> Box No. I Basis of the report</p> <p><input type="checkbox"/> Box No. II Priority</p> <p><input type="checkbox"/> Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability</p> <p><input type="checkbox"/> Box No. IV Lack of unity of invention</p> <p><input checked="" type="checkbox"/> Box No. V Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement</p> <p><input type="checkbox"/> Box No. VI Certain documents cited</p> <p><input type="checkbox"/> Box No. VII Certain defects in the international application</p> <p><input type="checkbox"/> Box No. VIII Certain observations on the International application</p>		
Date of submission of the demand 19.12.2005	Date of completion of this report 21.04.2006	
Name and mailing address of the International preliminary examining authority:  European Patent Office - P.B. 5818 Patentlaan 2 NL-2280 HV Rijswijk - Pays Bas Tel. +31 70 340 - 2040 Tx: 31 651 epon Fax. +31 70 340 - 3016	Authorized officer Pernice, C Telephone No. +31 70 340-3084	

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IAP20 Rec'd PCT/PTO 07 JUL 2006

INTERNATIONAL PRELIMINARY REPORT
ON PATENTABILITYInternational application No.
PCT/NL2005/000033Box No. I Basis of the report

1. With regard to the language, this report is based on the international application in the language in which it was filed, unless otherwise indicated under this item.
 - This report is based on translations from the original language into the following language, which is the language of a translation furnished for the purposes of:
 - international search (under Rules 12.3 and 23.1(b))
 - publication of the international application (under Rule 12.4)
 - international preliminary examination (under Rules 55.2 and/or 55.3)
2. With regard to the elements* of the international application, this report is based on (replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report):

Description, Pages

1-28 as originally filed

Claims, Numbers

1-33 received on 31.03.2006 with letter of 30.03.2006

Drawings, Sheets

16-66 as originally filed

a sequence listing and/or any related table(s) - see Supplemental Box Relating to Sequence Listing

3. The amendments have resulted in the cancellation of:
 - the description, pages
 - the claims, Nos. 34-38
 - the drawings, sheets/figs
 - the sequence listing (specify):
 - any table(s) related to sequence listing (specify):
4. This report has been established as if (some of) the amendments annexed to this report and listed below had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).
 - the description, pages
 - the claims, Nos.
 - the drawings, sheets/figs
 - the sequence listing (specify):
 - any table(s) related to sequence listing (specify):

* If item 4 applies, some or all of these sheets may be marked "superseded."

**INTERNATIONAL PRELIMINARY REPORT
ON PATENTABILITY**International application No.
PCT/NL2005/000033

Box No. V Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)	Yes: Claims	1-33
	No: Claims	
Inventive step (IS)	Yes: Claims	1-33
	No: Claims	
Industrial applicability (IA)	Yes: Claims	1-33
	No: Claims	

2. Citations and explanations (Rule 70.7):**see separate sheet**

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**INTERNATIONAL PRELIMINARY
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(SEPARATE SHEET)**

International application No.

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Re Item V

Reasoned statement with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1.0 Reference is made to the following document:

D1: EP-A-1 029 805 (GRAPHIC PACKAGING CORP) 23 August 2000 (2000-08-23)

2.0 The document D1 is regarded as being the closest prior art to the subject-matter of claim 1, and shows (the references in parentheses applying to this document):

A method for producing self-supporting container parts (10), such as dishes or covers, for containers for foodstuffs to be treated in a microwave oven, said containers each comprising at least one compartment for receiving the foodstuffs, along at least part of the circumferential surface of which compartment a microwave-radiation influencing material layer (100) is provided in the wall of at least one associated container part (104), comprising the steps of:

- providing a multilayer foil (100) comprising said microwave radiation-influencing material layer and at least one material layer that does not influence microwave radiation, which is bonded thereto on at least one side of the microwave radiation-influencing material layer;
- bonding one side of the multilayer foil to a remaining portion (104) of the container part in question, in such a manner that the material layer of the multilayer foil that does not influence microwave radiation is present on a free surface (14) of the container part.

The subject-matter of claim 1 differs from this known method for producing self-supporting container parts, because of the additional production step which positions the the multilayer foil inside a mould during the forming of a container part in said mould for the purpose of bonding the microwave-influencing material layer to the remaining portion of the container part during said forming of the container part.

The subject-matter of claim 1 is therefore new (Article 33(2) PCT).

2.1 The problem to be solved by the present invention may be regarded as simplifying the manufacturing of a moulded container for cooking foodstuff in a microwave oven which comprises a microwave radiation-influencing material multilayer foil (e.g.

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susceptor, reflector).

- 2.2 The solution to this problem proposed in claim 1 of the present application is considered as involving an inventive step (Article 33(3) PCT) since none of the consulted prior state of the art suggests positioning said multilayer foil in a mould for bonding with the remaining portion of the container part during said forming of the container.
- 3.0 The same reasoning applies, mutatis mutandis, to the subject matter of claim 19, which therefore is also considered to be new and inventive.
- 4.0 Claims 2-18, 28-33 are dependent on claim 1 and as such also meet the requirements of the PCT with respect to novelty and inventive step.
- 5.0 Claims 20-27 are dependent on claim 19 and as such also meet the requirements of the PCT with respect to novelty and inventive step.

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CLAIMS

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1. A method for producing self-supporting container parts, such as dishes or covers, for containers for foodstuffs to be treated in a microwave oven, said containers each comprising at least one compartment for receiving the foodstuffs, along at least part of the circumferential surface of which compartment a microwave-radiation influencing material layer is provided in the wall of at least one associated container part, comprising the steps of

10 1. - providing a multilayer foil comprising said microwave radiation-influencing material layer and at least one material layer that does not influence microwave radiation, which is bonded thereto on at least one side of the microwave radiation-influencing material layer,

15 1. - bonding one side of the multilayer foil to a remaining portion of the container part in question, in such a manner that the material layer of the multilayer foil that does not influence microwave radiation is present on a free surface of the container part, <->

20 2. A method according to claim 1, comprising the step of bonding the multilayer foil to the remaining portion of the container part in such a manner that the material layer of the multilayer foil that does not influence microwave radiation is present on the outer side of the container part.

25 3. ~~A method according to claim 1 or 2, comprising the step of bonding the multilayer foil to the remaining portion of the container part being carried out by positioning the multilayer foil inside the a mould during the forming of a container part in said mould for the purpose of bonding the microwave-influencing material layer to the remaining portion of the container part during said forming of the container part.~~

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3A

1 or 2

3A. A method according to claim 3, comprising the step of forming the container parts by injection-moulding the container parts in an injection mould.

1 or 2

4B. A method according to claim 3, comprising the step of forming the container parts by thermoforming the container parts in a thermoforming mould.

10

5. ~~A method according to claim 1 or 2, comprising the step of joining the multilayer foil to the remaining portion of the container part by glueing the multilayer foil to the remaining portion of the container part by means of an adhesive layer outside a mould.~~

15

6. ~~A method according to claim 5, comprising the step of thermoforming the container part in a thermoforming mould after the multilayer foil has been glued onto the remaining portion of the container part.~~

15

5B. A method according to any one of the preceding claims, wherein the microwave radiation-influencing material layer is provided with holes.

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6B. A method according to claim 5, wherein said holes are provided in different patterns for different compartments.

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7B. A method according to claim 5 or 6, wherein said holes are provided in different sizes for different compartments.

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8M.

8M. A method according to claim 5, 6 or 7, wherein the material layer that does not influence microwave radiation is a closed layer.

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9B. A method according to claim 5, 6 or 7, wherein said multilayer foil is provided with through holes.

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10B. A method according to any one of the claims 5, 6, 7, 8 or 9, wherein the holes in the microwave radiation-influencing material layer are formed in the same production line as the one in which the multilayer foil is bonded to the remaining portion of the container part in question.

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A1

11 14. A method according to any one of the preceding claims, wherein the multilayer foil comprises cut-out corner portions.

12 15. A method according to any one of the preceding claims, wherein the multilayer foil is provided in a condition in which a 5 material layer that does not influence microwave radiation is present on either side of the microwave radiation-influencing material layer.

13 16. A method according to claim 15, wherein one of the two material layers that do not influence microwave radiation is detached 12 from the multilayer foil before the multilayer foil is bonded to the remaining portion of the container part.

14 17. A method according to any one of the preceding claims, wherein the material layer(s) that do(es) not influence microwave radiation is/are made of the same material as the remaining portion of the container part.

15 15 18. A method according to any one of the preceding claims, wherein the upper side of a compartment of a container, after being filled with a foodstuff, is covered with a further multilayer foil comprising a further microwave radiation-influencing material layer and at least one material layer that does not influence microwave radiation, 20 which is bonded thereto on one side of said further microwave radiation-influencing material layer, in such a manner that said further microwave radiation-influencing material layer of said further multilayer foil is present on the side remote from the interior of the filled compartment of said further material layer that does not influence microwave radiation.

25 16 19. A method according to claim 18, wherein said further multilayer foil is directly bonded to an upper circumferential edge of the filled compartment.

17 20. A method according to claim 18, wherein said further multilayer foil is glued onto a separate sealing foil, which is directly 30 bonded to an upper circumferential edge of the filled compartment.

18 21. A method according to any one of the preceding claims,

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characterized in that the multilayer foil is electrostatically chargeable.

19 26. A container part produced in accordance with any one of the preceding claims. 19

5 20 26. A container part according to claim 26, provided with connecting means for being interconnected with other container parts. 19 20

21 24. A container part according to claim 22 or 23, characterized in that the microwave radiation-influencing material layer comprises aluminium. 19 20 21

10 22 26. A container part according to claim 22, 23 or 24, characterized in that the at least one material layer that does not influence microwave radiation comprises polypropylene. 19 20 21 22

23 26. A container part according to claim 22, 23, 24 or 25, characterized in that the at least one material layer that does not influence microwave radiation comprises paper. 19 23

24 21. A container part according to any one of the claims 22-26, characterized in that the microwave radiation-influencing material layer has a thickness of maximally 50 µm, more preferably maximally 30 µm. 19 24

20 25 26. A container part according to any one of the claims 22-27, characterized in that the multilayer foil has a thickness of maximally 200 µm, more preferably maximally 100 µm. 19 25

26 26. A container part according to any one of the claims 22-25, characterized in that legs are provided, via which the container part can rest on a supporting surface. 19 26

25 27 36. A container part according to any one of the claims 22-29, characterized in that means for connecting the container part to an associated other container part are provided along the circumferential edge of at least two compartments. 19 26

30 31. ~~A method for producing a multilayer foil provided with holes for use in a method according to claim 12 or a dependent claim thereof, comprising the steps of~~

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~~New claims 3 and 31-36 with letter of 19 December 2005.~~

3. A method according to claim 1 or 2, comprising the step of bonding the multilayer foil to the remaining portion of the container part being carried out by positioning the multilayer foil inside a mould during the forming of a container part in said mould for the purpose of bonding the microwave-influencing material layer to the remaining portion of the container part during said forming of the container part

28 31. A method for producing a multilayer foil provided with through holes for use in a method according to claim 12 or a dependent claim thereof, comprising the steps of

- providing a closed multilayer foil comprising a microwave radiation-influencing material layer and at least one material layer that does not influence microwave radiation, which is bonded thereto on at least one side of the microwave radiation-influencing material layer,
- die-cutting the through holes in the multilayer foil.

29 32. A method for producing a multilayer foil provided with through holes for use in a method according to claim 12 or a dependent claim thereof, comprising the steps of

- providing a closed multilayer foil comprising a microwave radiation-influencing material layer and at least one material layer that does not influence microwave radiation, which is bonded thereto on at least one side of the microwave radiation-influencing material layer,
- cutting the through holes in the multilayer foil by

means of a laser beam.

30 33. ²⁸ ²⁹ A method for producing a multilayer foil according to claim ³¹ or ³², comprising the steps of
- after the making of the through holes in the multilayer foil, glueing a closed material layer that does not influence microwave radiation onto one side of the multilayer foil.

31 34. ³⁰ A method for producing a multilayer foil according to claim ³⁴, comprising the steps of
- after the making of the through holes in the multilayer foil, glueing a closed material layer that does not influence microwave radiation onto both sides of the multilayer foil.

32 35. A method according to claim ³¹ ³⁴, wherein one of the closed material layers that do not influence microwave radiation is glued with a glue type that allows subsequent breaking of the glued joint so as to make it possible to separate the respective closed material layer that does not influence microwave radiation from the remaining portion of the multilayer foil at a later stage.

33 36. A multilayer foil produced in accordance with any one of the claims ²⁸ ³⁰ ³² ³⁴ ³⁵.

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